

IMPROVED METHOD AND APPARATUS FOR DISPLAY OF WINDOWING APPLICATION PROGRAMS ON A TERMINAL

ABSTRACT

A video display terminal capable of operating with a graphical user interface such as Windows provides windowing functionality to permit use of popular applications programs resident on a server, without requiring more than application data to be transmitted from the server, and keyboard and mouse information to be transmitted from the terminal to the server. The terminal includes processing means, not fully compatible with personal computer BIOS or disk operating systems and incapable of executing windowing applications locally, adapted to receive windowing information supplied by programs executing on a remotely located application server. The terminal also includes a display for the windowing information supplied by programs executing on the remotely located application server. The invention provides FTP and SNMP capabilities along with a number of user interface enhancements, DHCP and SNMP enhancements. File information is transferred to and from the terminal using a communications protocol. One or more image upgrades are transferred to the terminal from the remotely located application server. Configuration data for the terminal can also be transferred to the terminal from the remotely located application server. The present invention further provides for simultaneously maintaining more than one connection between the terminal and server and establishing more than one virtual machine on the terminal with each virtual machine running an open session. Each virtual machine stops sending and receiving data to and from the server when an application resides in the background session. Each virtual machine commands the server to refresh the data for the application when the application is switched to the foreground.